PILE RECORD FOR FRICTION PILES

Pile No.	Pile Cut-off Elevation	Pile Length In Place	Point of Pile Elevation As Driven	Minimum Point of Pile Elevation	Design Axial Load	EOD Required Field Bearing	BOR Required Field Bearing	Calculated Field Bearing	EOD or BOR
	FEET	FEET	FEET	FEET	TONS	TONS	TONS	TONS	
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									

Definitions of Terms

PILE CUT-OFF ELEVATION: Elevation of the top of pile in the finished structure.

PILE LENGTH IN PLACE: Actual pile length below the Pile Cut-Off Elevation in the finished structure.

POINT OF PILE ELEVATION AS DRIVEN: Actual point of pile elevation in the finished structure.

MINIMUM POINT OF PILE ELEVATION: Point of pile elevation corresponding to the minimum embedment required to satisfy design considerations.

DESIGN AXIAL LOAD: Service load carried by each pile as estimated from structural design calculations.

EOD REQUIRED FIELD BEARING: Pile bearing value at the End of Driving (EOD) required to satisfy design requirements. This value is taken as 1.25 times the Design Axial Load plus the total estimated side friction capacity at the time of driving in any scour susceptible, unsuitable, and embankment layers. A group efficiency factor may be included for piles in cohesive soils.

BOR REQUIRED FIELD BEARING: Pile bearing value at the Beginning of Restrike (BOR) required to satisfy design requirements. This value is taken as 2.0 times the Design Axial Load plus the total estimated side friction capacity after setup in any scour susceptible, unsuitable, and embankment layers. A group efficiency factor may be included for piles in cohesive soils.

CALCULATED FIELD BEARING: Pile bearing value in place calculated using the appropriate pile driving formula in Section 604.03.07(B) of the Standard Specifications.

Driving Criteria

Satisfy two criteria when driving friction piles:

1. Drive piles to the Minimum Point of Pile Elevation
2. Drive piles until the Calculated Field Bearing equals or exceeds the EOD Required Field Bearing if determined at the End of Driving, or the BOR Required Field Bearing if determined at the Beginning of Restrike.

The EOD Required Field Bearing and the BOR Required Field Bearing are different values. The reason is that the formula used to calculate field bearing tends to overpredict pile capacity and the overprediction is greater during restrike. Adjustments are applied by the designer to account for the differences.

If either the EOD or BOR Required Field Bearing value is achieved at an elevation higher than the Minimum Point of Pile Elevation, continue driving until the Minimum Point of Pile Tip Elevation is reached. If the EOD Required Field Bearing is not achieved by the time the pile has been driven to the Plan Test Pile Length or Production Pile Order Length, cease driving, restrike the pile with a warm hammer a minimum of twelve hours after the end of initial driving, and verify that the BOR Required Field Bearing has been achieved. If it is necessary to determine the BOR Required Field Bearing, leave piling at least 12 inches (plus strip-down length if necessary) above the cutoff elevation at the end of initial driving to provide a sufficient amount of exposed pile length to accommodate additional pile penetration during restrike.

The Project Engineer shall determine the Calculated Field Bearing at the Beginning of Restrike using a minimum of 10 blows. If the BOR Required Field Bearing is not achieved after restrike or if the pile cannot be advanced to the Minimum Point of Pile Elevation, consult the Central Office Division of Construction.

Field Data

For each pile, the Project Engineer shall record the following on this sheet: Pile Length in Place, Point of Pile Elevation as Driven, Calculated Field Bearing, and an indication of whether the Calculated Field Bearing was determined at End of Driving (EOD) or Beginning of Restrike (BOR). Submit this record to:

Director, Division of Bridge Design
Room 725, State Office Building
Frankfort, KY 40622-0001

This pile record does not replace other pile records the Project Engineer is required to keep and submit.

Use HP 12x53 in accordance with BPS-003, c.e.
Use HP 14x73 in accordance with BPS-009, c.e.
Use HP 14x89 in accordance with BPS-011, c.e.
Use 14" piles in accordance with BPC-002 or BPC-011, c.e.

PILE RECORD FOR POINT BEARING PILES

Pile No.	Pile Cut-off Elevation	Pile Length In Place	Point of Pile Elevation As Driven	Design Axial Load	Required Field Bearing	Calculated Field Bearing
	FEET	FEET	FEET	TONS	TONS	TONS
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

Definitions of Terms

PILE CUT-OFF ELEVATION: Elevation of the top of pile in the finished structure.

PILE LENGTH IN PLACE: Actual pile length below the Pile Cut-Off Elevation in the finished structure.

POINT OF PILE ELEVATION AS DRIVEN: Actual point of pile elevation in the finished structure.

DESIGN AXIAL LOAD: Service load carried by each pile as estimated from structural design calculations.

REQUIRED FIELD BEARING: Pile bearing value required to achieve "refusal" for the size of pile used. According to the Division of Construction Guidance Manual, this value is taken as 150 tons for 12-inch steel H-Piles and 180 tons for 14 inch steel H-Piles.

CALCULATED FIELD BEARING: Pile bearing value in place calculated using the appropriate pile driving formula in Section 604.03.07(B) of the Standard Specifications.

Driving Criteria

DRIVING CRITERIA: Drive point bearing piles to refusal and verify that the Calculated Field Bearing equals or exceeds the Required Field Bearing.

Field Data

For each pile, the Project Engineer shall record the following on this sheet: Pile Length in Place, Point of Pile Elevation as Driven, and the Calculated Field Bearing. Submit this record to:

Director, Division of Bridge Design
Room 725, State Office Building
Frankfort, KY 40622-0001

This pile record does not replace other pile records the Project Engineer is required to keep and submit.

Use HP 12x53 in accordance with BPS-003, c.e.
Use HP 14x73 in accordance with BPS-009, c.e.
Use HP 14x89 in accordance with BPS-011, c.e.

REVISION	DATE
DATE:	CHECKED BY
DESIGNED BY:	
DETAILED BY:	

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY

ROUTE | CROSSING

ITEM NUMBER

PREPARED BY
Division of Bridge Design

SHEET NO.

DRAWING NO.

SHEET LOCATION: FILE NAME: $$$$design$file$specification$$$$ USERNAME: $$$$plotted$by$$$$ DATE: $$$$DATE$$$$

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